

47-5-350

B-137

Date May 21, 1947

9.2

File Safety Waste DisposalSubject Disposal of Waste X MetalThose Eligible
To Read The
AttachedBy A. J. MurphyCopy # 7To Lt. Col. W. P. Leber

Central file

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By *3m9*Date **AUG 25 1971****May 21, 1947**

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**U.S. Atomic Energy Commission
P.O. Box E
Oak Ridge, Tennessee**

Attention: Lt. Col. W. P. Labor

Subject: Disposal of Waste X Metal

Gentlemen:

Reference is made to your letter of April 22, 1947, regarding the disposal of waste X metal.

In regard to Paragraph 2 of your letter, 15 pounds of the unirradiated dissolved metal was forwarded to your office May 9, 1947. It is believed that the material supplied is representative of the aggregate.

This material contained in approximately 200 wooden barrels which are rapidly decaying is now stored in the vicinity of the Settling Basin. A survey made by a member of the Health Physics Department showed that the ground near the barrels was becoming contaminated. The barrels average 3 mrep/hr at 4" and the timbers on which the barrels rest, in one case, gave 2 mrep/hr at 4", and 30,000 d/mL with Zento. The general β, γ background near the barrels is high (< 1 mrep/hr), indicating a spreading of contamination to the ground. The inside surface of one broken barrel showed 45,000 d/mL. We again recommend that this health hazard be eliminated as soon as possible by the most practical method; namely, burial in the area designated for this purpose.

Calculations have been made in an effort to make an estimate of the plutonium content of the exposed slugs now stored in the vault (Item 2 of my letter to you of October 29, 1946).

Jed Davis 12/28/94

May 21, 1947

Calculations based upon the following assumptions indicate approximately 60 micrograms of plutonium per slug:

- a. The metal was at the bottom of the experimental arrangement.
- b. The pile was operated at 2000 KW.
- c. The metal was exposed for a total of 300 days.

It is estimated that the accuracy of this calculation is within a factor of two and is more probably high than low.

A program conducted on a part-time basis is now under way for removing the cans from the reject slugs. This will be completed within the next few days.

In view of the fact that the amount of classified material on the Plant Site is rapidly increasing and the limited adequate storage facilities available, we again would like to emphasize the necessity for disposing of the waste X metal as outlined in my letter to you of October 29, 1946.

We still have stored in the canal approximately 4200 pounds of waste metal. Due to the recent slug failures in the pile active oxide has been deposited in the canal. It is essential that the canal be thoroughly cleaned before the next physical inventory of the X metal can be taken. It is practically impossible to clean the canal well with the congested conditions that now exist. Therefore, we strongly recommend that this material be placed in steel boxes and buried in a marked grave where it can, at some later date, be recovered if necessary.

Very truly yours,

Edgar J. Murphy
Assistant Research Director

EJM/eb

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